CORTISOL
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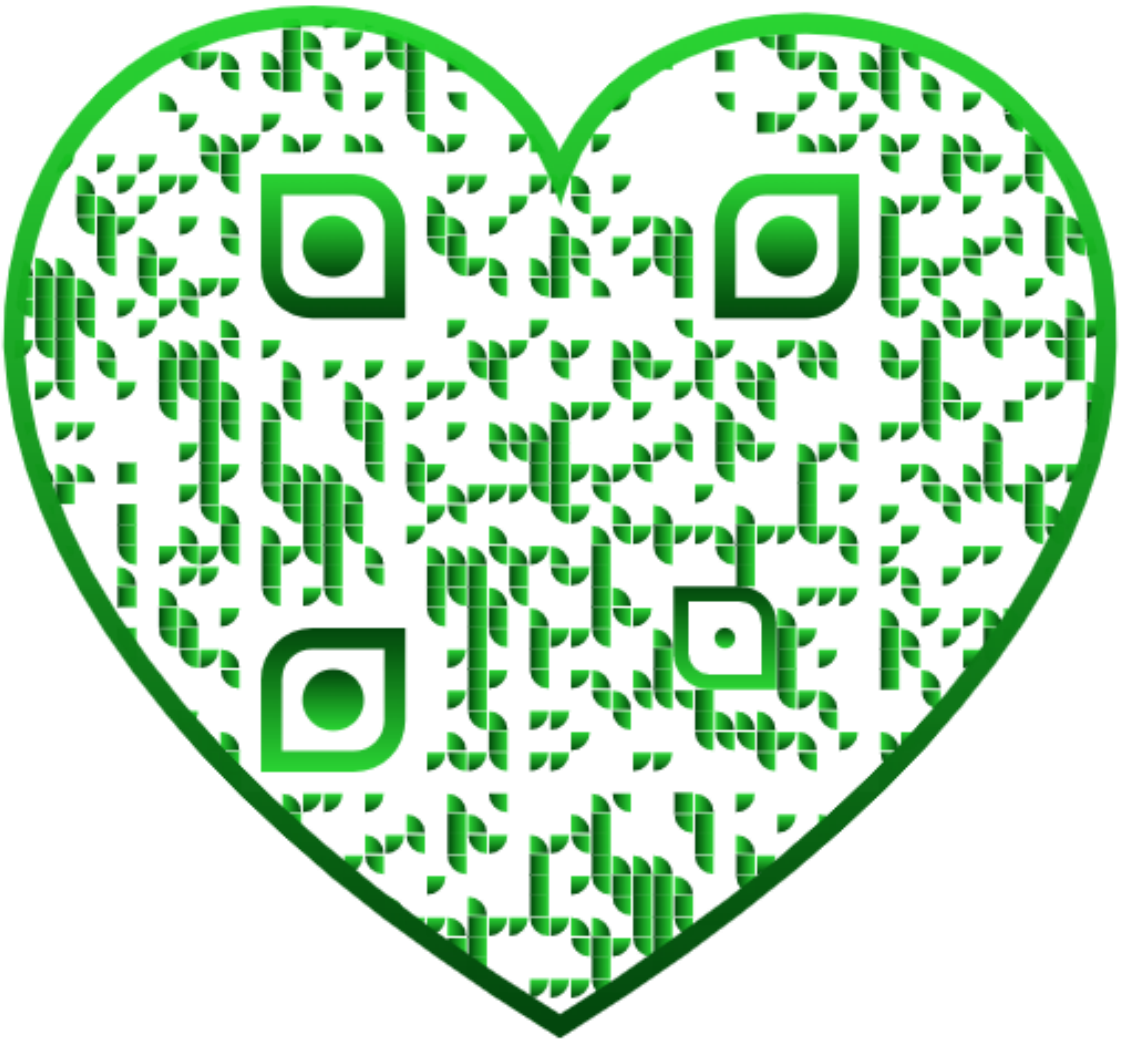


introduction of cortizol

What is cortisol?

Cortisol is a steroid hormone, one of the glucocorticoids, made in the cortex of the adrenal glands and then released into the blood, which transports it all round the body. Almost every cell contains receptors for cortisol and so cortisol can have lots of different actions depending on which sort of cells it is acting upon. These effects include controlling the body's blood sugar levels and thus regulating metabolism, acting as an anti-inflammatory, influencing memory formation, controlling salt and water balance, influencing blood pressure and helping development of the foetus. In many species cortisol is also responsible for triggering the processes involved in giving birth.

A similar version of this hormone, known as corticosterone, is produced by rodents, birds and reptiles.

What happens if I have too much cortisol?

Too much cortisol over a prolonged period of time can lead to a condition called Cushing's syndrome. This can be caused by a wide range of factors, such as a tumour that produces adrenocorticotropic hormone (and therefore increases cortisol secretion), or taking certain types of drugs. The symptoms include:

rapid weight gain mainly in the face, chest and abdomen contrasted with slender arms and legs
a flushed and round face
high blood pressure
osteoporosis
skin changes (bruises and purple stretch marks)
muscle weakness
mood swings, which show as anxiety, depression or irritability
increased thirst and frequency of urination

What happens if I have too little cortisol ?

If your body doesn't make enough of this hormone, you have a condition doctors call Addison'sdisease. Usually, the symptoms appear over time. They include:
Changes in your skin, like darkening on scars and in skin folds
Being tired all the time
Muscle weakness that grows worse
Diarrhea, nausea, and vomiting
Loss of appetite and weight
Low blood pressure

The normal level of cortisol in the body

Usually, the level of the natural cortisol hormone in the blood is high in the morning and then begins to decrease gradually during the day.

Adults: 7-25 mcg/dL.

Children: 7 - 25 mcg/dL.

function of cortizol

Water electrolyte balance:

In normal level = diuretic action due to:
_inhibition of ADH = Anti direction Hermon decrease the pernability of renal tuble to H2O .

_ Stimulation of GFR, ANP.
_ Electrolyte metabolism:
In high level act as aldosterone (strong effect)
Sodium

_Increase Extra cellular fluid = (ECF).
_Increase Blood volume.
_Increase Venous return.
_Increase end diastolic volume.
_Increase Cardiac output (C.O).
-Increase Blood pressure (B.P)(hypertension).

Cortisol reduces the function of a cell called fibroblast :

- It is one of the important cells responsible for wound healing

_When the wound healing decreases, the patient has an excessive increase in cortisol, and there is a decrease in the production of collagen, which is located under the skin, which is the main component of the skin It is possible if the cortisol hormone increases, we see cracks and sagging on the skin
- also causes muscle weakness as a result of breaking down the protein that makes up muscle tissue.

- also causes obesity and weight gain as a result of the retention of excessive amounts of water and sodium in the body.

Cortisone is secreted from the adrenal cortex under the influence of the hormone ACTH, which is the adrenal stimulating hormone, which is secreted from the anterior lobe of the pituitary gland and the hypothalamus in response to stress, inflammation or immune suppression. It is also secreted to control the metabolism of sugar, fats and proteins in the body

Corticosteroids reduce chemicals secreted during infections and suppress the immune system by affecting white blood cells.

Corticosteroids can be used medically in both vasculitis, muscle and joint inflammation, lupus erythematosus, diabetes and chronic stress conditions

Helps maintain natural blood pressure

The level of natural cortisone is in the blood is high in the morning and then starts to decline gradually during the day, where the precision of the cortisone check is always preferred to be the natural results of the natural results for the blood

And the dangers of high cortisone hormone in the body?

High cortisone hormone in the blood means Cushing's syndrome, which usually appears with the following symptoms:

overweight.

extreme tiredness;

Mood Swings.

Increase diabetes level in the blood.

The appearance of bruises under the skin without any justifiable reason.

SYS
187
DIA
78
PULSE
90
START
STOP

*Cortisone helps to relieve inflammatory response ...

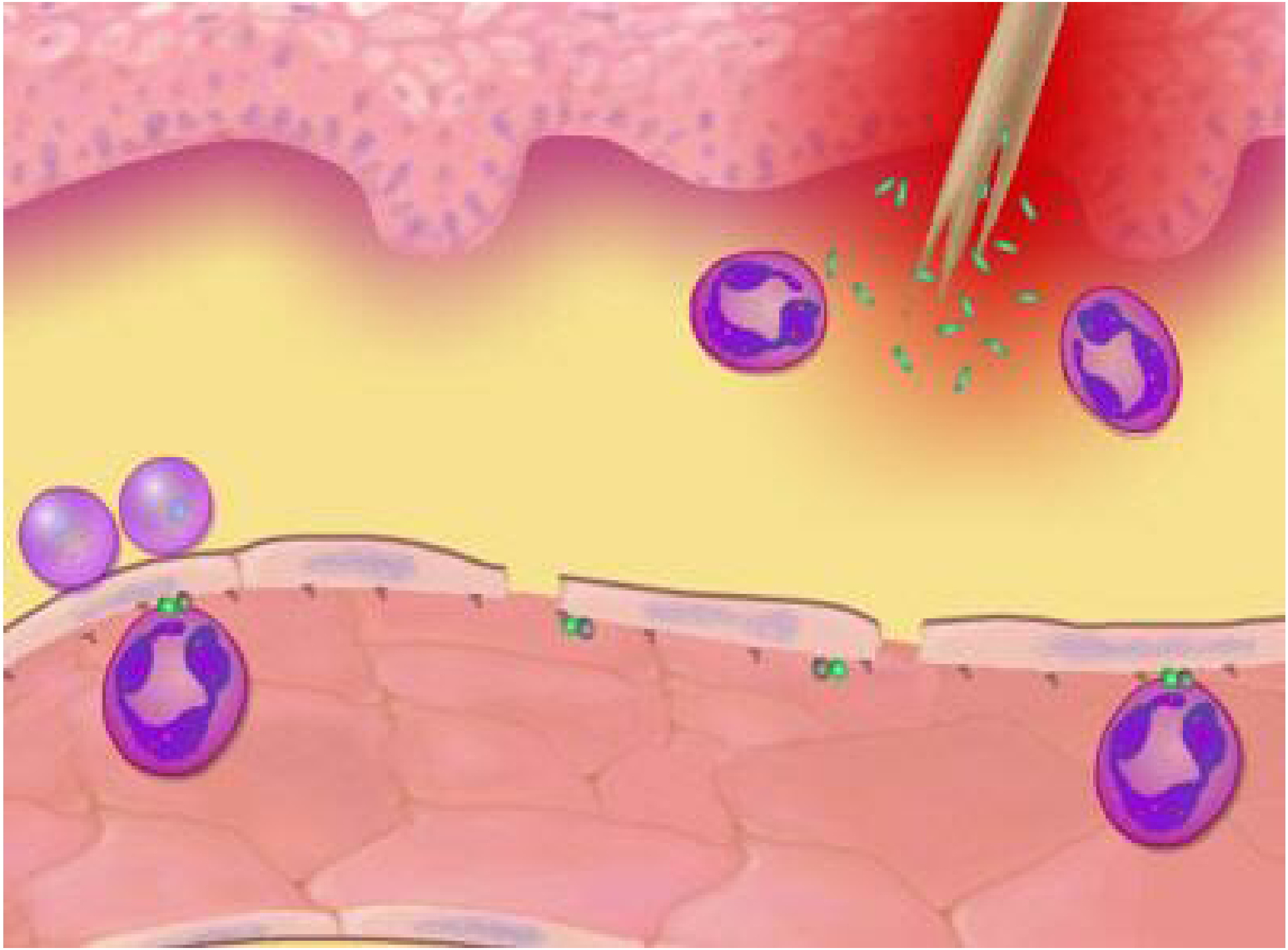
_ Cortisone is a hormone that prevents the body of secretion of materials that cause inflammation, and refers from the adrenal gland and tablew a role an important role in doing most parts of the body.

*Cortisone therapeutic properties :_

1_ Hadith for inflammation: works to reduce the immune system response to allergies and inflammation .

2-Inhibitory of the immune system: The infection is intended for the immune system that stimulates when injury.

3 - Anti-cell breeding: Cortisone has the ability to scales and growthCancer cells.



Cortisol reduces the body's stores of protein, except for the liver
#cortisol act as protien catabolism to amino acid in extra hepatic tissue
#catabolism of protein in bone lead to osteoporosis and release the calicum to blood

Fate of free amino acid

1-Hepatic tissue increase up take of amino acid that conversion to: 1-protein by protein syntesis
2-carbohydrate by gluconeohenesis

2- Cortisol raises the free amino acids in the serum by inhibiting collagen formation, decreasing amino acid uptake by muscle, and inhibiting protein
synthesis

** Increase of cortisol lead to weak of bone and muscle

Effect on the respiratory system :

Corticosteroids are an important anti-inflammatory drug to treat many conditions such as: rheumatoid arthritis, inflammatory bowel disease, allergies, asthma, lupus, and psoriasis.

But it is necessary to pay attention when using cortisone, especially if it is used for long periods, due to the possible side effects that it may cause, as some evidence indicated that the use of cortisone in some cases may cause episodes of shortness of breath in some people.

During fetal life cortisol accurate the formation of surfactant in the lung.

Thank you